The Australian National Fabrication Facility

151 Wellington Road, Clayton 3168, Australia

Providing micro and nano fabrication facilities for Australian researchers.

ABN 50 124 231 661

New $35m Centre of Excellence underpinned by ANFF support

Both ANFF and the MCN are poised to offer expertise and equipment to the *CoE for Transformative Meta-Optical Systems*

ANFF and its headquarters, the Melbourne Centre for Nanofabrication, have been named as partner organisations in a new $34.9 million research centre focused on developing novel optical technologies.

The Australian Research Council (ARC) *Centre of Excellence for Transformative Meta-Optical Systems* (TMOS) was announced by Minister for Education Dan Tehan on 11 October 2019.

TMOS will undertake cutting-edge research in light interaction with nanomaterials, harnessing the emerging science of Meta-optics, a class of optical technologies which use nanostructured materials to generate, manipulate, and detect light.

TMOS' research will take steps towards Industry 4.0, the next industrial revolution that merges the physical and digital worlds to deliver greater efficiency in a range of sectors. The outcomes of the CoE could bring about the creation of light-based wifi (lifi), holographic displays, and autonomous vehicles.

"The centre will help develop smaller, smarter, faster and cheaper optical systems, that will empower artificial intelligence, augmented reality, wearable sensors and remote sensing," TMOS Director, Professor Dragomir Neshev said.

"Research such as this is only possible here because of the breadth of nanofabrication expertise found in Australia, and due to significant government investment in research infrastructure."

The realisation of these emerging and developing technologies is dependent on nanofabrication techniques housed in NCRIS-enabled ANFF locations, and as such, the TMOS Chief Investigator list features long-term users of ANFF sites including ANFF WA, ANFF ACT, ANFF Optofab, and ANFF VIC. In particular, the Melbourne Centre for Nanofabrication (MCN), a purpose-built, open-access cleanroom facility and home to ANFF's headquarters, has been mentioned as a partner due to its extensive capability list that will support the TMOS team's research endeavours.

"I find working with groups such as TMOS is the most exciting aspect of working at the MCN and within the Victorian Node of ANFF as it demonstrates the incredibly strong research environment that has been assembled by our seven joint venture partners – it's a research ecosystem that is continuing to grow," said Professor Nico Voelcker, ANFF VIC and MCN Director.

The Australian Research Council (ARC) Centre of Excellence for Transformative Meta-Optical Systems will be led by Professor Neshev and based at the Australian National University (ANU) in close collaboration with the University of Melbourne, RMIT University, UTS and the University of Western Australia. In addition to ANFF, TMOS will collaborate with experts at 20 academic and industry partner organisations from Australia, Europe, Asia and America. These collaborators they will provide an additional $35.4 million in cash and in-kind support to the centre.

--- ENDS ---

About ANFF

Established under the National Collaborative Research Infrastructure Strategy (NCRIS), the Australian National Fabrication Facility (ANFF) provides academia and industry with access to more than 500 state-of-the-art micro/nanofabrication facilities spread across 21 Australian locations.

For more than a decade, ANFF has been enabling research through a mixture of training, expert support and direct access.

The capability provided by ANFF enables users to process hard materials (metals, composites and ceramics) and soft materials (polymers and polymer-biological moieties) and transform these into structures that have application in sensors, medical devices, nanophotonics and nanoelectronics.

Contact

Tom Eddershaw

Marketing and Communications, ANFF

+61 3 9905 2030

Tom.eddershaw@anff.org.au